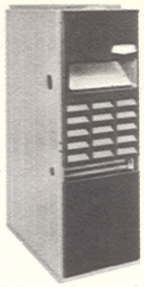
bryant®

GAS-FIRED UPFLOW FURNACE



Product Data 394U Sheet

Series F Sizes 50 & 80

PDS 394U.50.4 7/15/70

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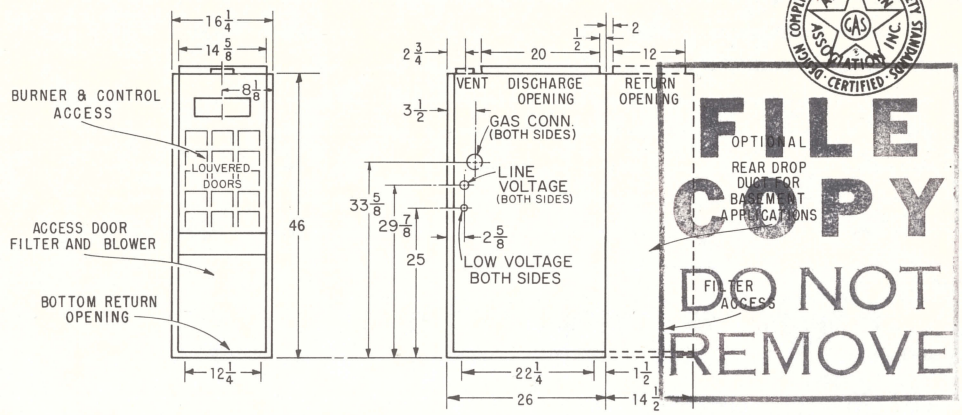


FLUE SIZE 4" OVAL

Shipping Weights

50-394-M & L	124 lbs
80-394-M & L	141 lbs
80-394-E	146 lbs

Clearances from Combustibles

In "large" rooms

- 6" from casing & vent hood
- 1" from sides & top of supply plenum

In confined spaces

- 0" from casing sides, rear, & bottom
- 6" from casing front & type C vent connector
- 3" from top & sides of uninsulated supply plenum

DESCRIPTION

The Bryant Model 394 Series F Gas-Fired Forced-Air Furnace is available in upflow, counterflow, and basement-type units ranging from 50,000-Btuh to 440,000-Btuh capacity. The 394's are designed to accept air conditioning. Cooling coils and housings styled and engineered to match the 394 are available.

All 394 Furnaces feature Bryant Uniweld (one piece) casings. The heat exchanger compartment is fully insulated for maximum operating efficiency, economy, and quiet operation.

Direct drive blowers are available on sizes 50 through 165, and belt-type on sizes 125 through 220. All moving parts of both types of blowers are cushioned in rubber. To further assure quiet operation blowers, each is electronically balanced.

Bryant slotted, port-type burners ignite and extinguish quietly. The design is such that the gas flame travels the full length of the heat exchanger.

Dependable ignition of the main burner is provided by the pilot and automatic gas control valve. The safety pilot is the incinerating type and the gas control valve assures safe operation—it will not operate if gas pressure is too low for proper ignition.

A control center terminal strip speeds installation time. All internal wiring is completed by Bryant. Field low-voltage and line-voltage wiring can be completed in minutes.

SUBMITTAL DATA

Job _____ Job Location _____

Engineer _____ Contractor _____

Submitted by _____ Date _____ Approved by _____ Date _____

Unit Size	Qty.	Unit No. and Location	Btuh Input	Gas Control Type	Optional Equipment

Specifications Subject To Change Without Notice

HEATING RATINGS & CAPACITIES

MODELS	Ratings Btuh*			
	Natural		Propane	
	Input**	Output	Input**	Output
50U	50,000	40,000	50,000	40,000
80U	80,000	64,000	75,000	60,000

*Ratings are for elevations up to 2000 ft; for higher altitudes, reduce ratings 4% for each 1,000 ft. above sea level.

**20% reduction in input allowed.

STANDARD GAS CONTROL OPTIONS

Control Type	Gas	
D2	Propane	100% shutoff automatic pilot, Bryant automatic gas control valve.
D4	Natural	Bryant automatic gas control valve with pressure regulator, Bryant automatic pilot.
D5	Natural	100% shutoff for natural gas. Same as D4 except uses thermocouple pilot and pilot relay.

CONTROL INFORMATION

MODEL	50U	80U
Burners (Steel Slotted Port)	2	3
Orifice Drill Size - Propane	54	
- Natural	41	40
D2 Control (Propane) Regulator	None required	
Valve	1/2 A641	
Escapement Orifice Drill Size	80	
Pilot - 734	0.010 Orifice	
D4 Control (Natural) Bryant Automatic Gas Control Valve with Pressure Regulator	1/2 A643	
Pilot - 732	0.016 Orifice	
D5 Control (Natural) Bryant Automatic Gas Control Valve with Pressure Regulator	1/2 A643	
Pilot - 734	0.016 Orifice	

Manual shutoff cock and pilot cock are integral parts of the 1/2 A643 automatic gas control valve with pressure regulator.

DRIVE TYPES

L – Multi-speed direct drive heating – minimum cooling.

M – Multi-speed direct drive heating – minimum cooling with evaporator blower motor relay.

E – (Size 80 only) Multi-speed direct drive heating – maximum cooling with evaporator blower motor relay.

COMPONENT INFORMATION

Drive Type	Type M or L	Type E
Model	50U & 80U	80U only
Motor - 4 Speed	1/8 HP (shaded pole)	1/4 HP (PSC)
Power Supply	120-60-1	
Full Load Amps	6.3	5.4
Speed & Rotation	1050 CCW*	1075 CCW*
Blower Wheel Dia. & Width	10 x 6	
Bore	1/2	
Filter - Fiber Glass		
Inlet at Bottom	14 x 25 x 1	
External Filter Rack P/N 60559D01	14 x 25 x 1	
Internal Side Filter Rack	14 x 25 x 1	
Rear Drop Duct P/N 60569D01	14 x 25 x 1	
Bottom Closure	P/N 56201C06	

*Rotation viewed from end opposite shaft.

**Size 50 furnaces do not require multi-velocity filters. Use multi-velocity filters on size 80 units when airflow exceeds 1000 cfm.

CONNECTIONS

MODEL		
Gas Supply NPT Natural		1/2
- Propane		1/2
Electric Supply		120-60-1
Branch Circuit Wire Size	AWG	14
Fuse Size	Amps	15
Control Circuit Power Available External to Unit	VA	7.2
Flue Size	Inches	4 (Oval)
Duct - Inlet at Bottom	D&W	22-1/4 x 12-1/4
Inlet External Filter Rack	H&W	12 x 23
Inlet Drop Duct	D&W	12 x 14-5/8
Discharge	D&W	20 x 14-5/8

AIRFLOW FOR INDICATED TEMPERATURE RISE*

Temp Rise °F	Airflow CFM	
	50U	80U
70	496	795
75	463	741
80	434	695
85	408	654
90	386	618
95	366	585
100	347	556

*At Rated Input

AIR DELIVERY PERFORMANCE‡
50-394U

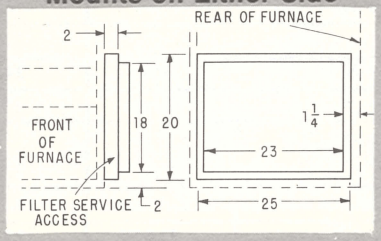
AIR DELIVERY CFM	EXTERNAL STATIC PRESSURE AVAIL. Type L or M Motor			
	HI	MED.	MED-LO	LO
500	0.83	0.76	0.67	0.52
600	0.72	0.61	0.45	
700	0.57	0.38		
800	0.37			

80-394U

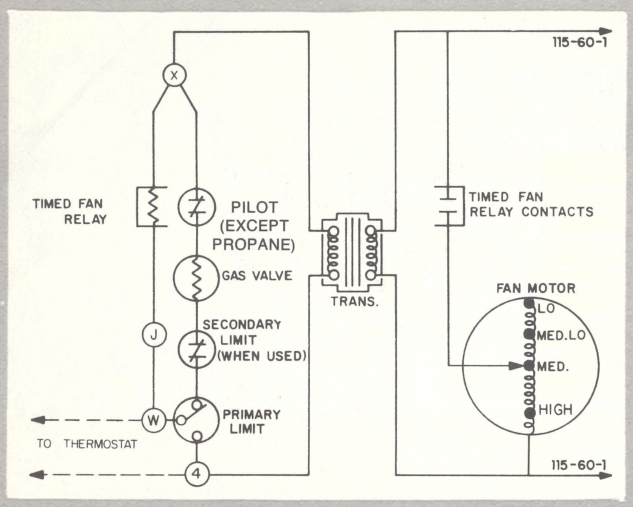
Air Delivery CFM	EXTERNAL STATIC PRESSURE AVAILABLE							
	Type L or M Motor				Type E Motor			
	Hi	Med	Med-Lo	Lo	Hi	Med	Med-Lo	Lo
500	0.88	0.78	0.70	0.58				0.77
600	0.76	0.65	0.52	0.06				0.61
700	0.63	0.47					0.78	0.27
800	0.48						0.60	
900	0.16					0.74	0.33	
1000					0.76	0.58		
1100					0.63	0.38		
1200					0.46	0.14		
1300					0.27			
1400					0.07			

Above data gives Cfm under typical field applications (i.e. 124 volts).
‡CFM approximately 13% less when rear air inlet used.

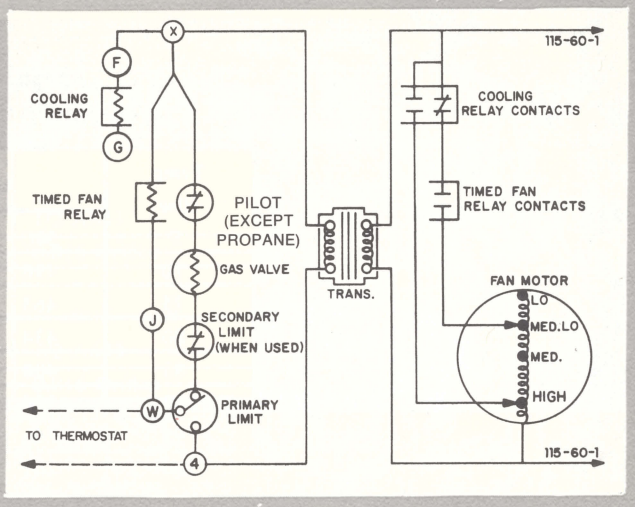
Optional External Filter Rack Mounts on Either Side



LINE-TO-LINE SCHEMATIC UNIT WIRING DIAGRAMS



Type L



Types M or E